

a pulsed light source that produces pulsed light having a first wavelength and a pulsed repetition rate;

a wavelength converter external to the pulsed light source that receives said pulsed light and outputs wavelength converted pulsed light having a second wavelength which is less than the first wavelength;

a modulator that receives and modulates the wavelength converted pulsed light; and

a scanner that scans the modulated wavelength converted pulsed light over the surface.

69. (Amended) Apparatus according to claim 61 and wherein the pulsed repetition rate is less than a data rate at which said modulator modulates said pulsed light.

REMARKS

Applicants express their appreciation to Examiner Michael Nghiem for the courtesy of an interview which was granted to Applicants' representatives Michael Faibisch (Reg. No. 48,427). The interview was held at the USPTO on December 2, 2002. The substance of the interview is set forth in the Interview Summary, a copy of which is attached and in the following remarks.

Applicants have carefully studied the Office Action dated September 4, 2002. The present amendment is intended to be fully responsive to all points of rejection raised by the Examiner and is believed to place the application in condition for allowance. Favorable reconsideration and allowance of the application are respectfully requested.

Claims 1-70 are pending in the application.

Claims 49-54 are allowed.

Claims 55-60 are canceled, without prejudice.

Claims 26, 61 and 69 are amended.

Claims 1-48 and 61-70 stand rejected under 35 U.S.C. §112, first paragraph as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to make and/or use the invention.

Claims 1-4 and 26-28 stand rejected under 35 U.S.C §102(b) as being anticipated by DeLange (U.S. 3,447,856).

Claims 5-25, 29-48 and 55-60 stand rejected under 35 U.S.C. §103(a) as being unpatentable over DeLange in view of the DeBenedictis et al. (U.S. 4,205,348).

Applicants respectfully traverse each of the above rejections as applied to each rejected claim.

The DeLange reference describes an optical pulse multiplier operative to increase the repetition rate of optical pulses in a light beam. However, the DeLange reference does not show or suggest any particular apparatus or method for modulating optical pulses output by the optical pulse multiplier.

The DeBenedictis reference describes a laser scanner utilizing facet tracking and acousto pulse imaging techniques. However, the DeBenedictis reference does not show or suggest a relationship between a pulse repetition rate of a light beam and a data rate of a signal employed to modulate the light beam.

Claims 1, 5, 26, 29 each contain the following recitation that is not found in either reference: "wherein the data rate is higher than the pulse repetition rate".

Rejection under 35 U.S.C. § 112

Claims 1-48 and 61-70 stand rejected under 35 U.S.C. § 112 as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to make and/or use the invention, because modulating a pulsed light at the data rate is not understood since the data rate has not been adequately defined in the specification.

Applicants wish to thank Examiner Nghiem for withdrawing his rejection under 35 U.S.C. § 112 in view of disclosure contained at paragraph [0155] of the published specification pointing out that "the data rate is the rate at which a modulator is switched on and off..."

Claim 26 erroneously recites that the data rate is "lower" than the pulse repetition rate. Claim 26 has been corrected to correspond to other independent claims reciting that the data rate is higher than the pulse repetition rate. Applicants submit that this error was evident from the claim itself.

Claim 61 has been amended to clarify that the modulator receives and modulates the wavelength converted pulsed light. This amendment does no more than make explicit what was inherent before the amendment.

Claim 61 has been amended to specifically introduce the term "data rate" and to attribute a function to the term. This amendment does no more than make explicit what was inherent before the amendment.

No new matter has been introduced. All these amendments are purely cosmetic.

Rejection under 35 U.S.C. § 102(b) - DeLange

Claims 1-4 and 26-28 stand rejected under 35 U.S.C. § 102(b) as being anticipated by DeLange. Applicants submit that the rejected claims are not *prima facie* anticipated by DeLange.

Claims 1 and 26 each include the following distinguishing recitation: "wherein the data rate is higher than the pulse repetition rate."

As noted above, DeLange describes an optical pulse multiplier operative to increase the repetition rate of optical pulses in a light beam. However, the DeLange reference does not show or suggest any particular apparatus or method for modulating the optical pulses which are output by the optical pulse multiplier, or any relationship between the pulse rate and the data rate.

In view of the foregoing, Applicants respectfully submit that claims 1 and 26 are thus *prima facie* patentable over the DeLange reference.

Inasmuch as claims 1 and 26 are patentable over DeLange for the reasons advanced above, 2-4, 27 and 28 each being dependent on a patentable independent claim and also including additional distinguishing recitation, are thus also deemed patentable over DeLange.

Rejection under 35 U.S.C. §103(a) - DeLange in View of DeBenedictis

Claims 5-25, 29-48 and 55-60 stand rejected under 35 U.S.C. §103(a) as being unpatentable over DeLange in view DeBenedictis.

Claims 55-60 are cancelled without prejudice. Applicants submit that the claims remaining are not *prima facie* obvious in view of the cited combination.

Claims 5, 29, each include the following distinguishing recitation: "wherein the data rate is higher than the pulse repetition rate."

Applicants respectfully submit that neither the DeLange reference nor the DeBenedictis reference, individually or in combination, anticipates or suggests using a data rate which is higher than the pulse repetition rate.

As noted above, the DeLange reference describes an optical pulse multiplier operative to increase the repetition rate of optical pulses in a light beam. However, the DeLange reference does not show or suggest any particular apparatus or method for modulating the optical pulses which are output by the optical pulse multiplier, or any relationship between the pulse rate and the data rate.

The DeBenedictis reference describes a laser scanner utilizing facet tracking and acousto pulse imaging techniques. However, the DeBenedictis reference does not show or suggest using a modulator to modulate a pulsed light beam, the modulator operating at a data rate which is higher than the pulse repetition rate of the pulsed light beam.

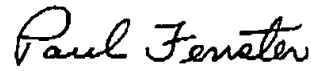
In view of the foregoing, Applicants respectfully submit that claims 5 and 29 are thus *prima facie* patentable over the DeLange reference in view of the DeBenedictis reference.

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Inasmuch as claims 5 and 29 are patentable over the DeLange reference in view of the DeBenedictis reference, for the reasons advanced above, claims 6-25 and 30-48 each being dependent on a patentable independent claim and also including additional distinguishing recitation, are thus also patentable over DeLange in view of DeBenedictis.

For the reasons advanced above, Applicants respectfully submit that this application, as amended, is in condition for allowance. Reconsideration and prompt allowance of all claims pending in this application are respectfully requested.

Respectfully submitted,
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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION

The Abstract at page 36 is amended as follows:

Apparatus for transmitting information at a data rate, ~~comprising: such as for recording~~
~~an image on a photosensitive surface, including~~

- ~~—A a pulsed light source that produces pulsed light having a pulsed repetition rate; and~~
- ~~—A a modulator that asynchronously modulates the pulsed light at the data rate,~~
- ~~—wherein the data rate is higher than pulse repetition rate.~~

IN THE CLAIMS

26. (Amended) A method for transmitting information at a data rate comprising:

providing pulsed light that is pulsed at a pulse repetition rate; and
asynchronously modulating the pulsed light at the data rate,
wherein the data rate is ~~lower~~ higher than the pulse repetition rate.

61. (Amended) Apparatus for recording an image on a photosensitive surface, comprising:

a pulsed light source that produces pulsed light having a first wavelength and a pulsed repetition rate;

a wavelength converter external to the pulsed light source that receives said pulsed light and outputs wavelength converted pulsed light having a second wavelength which is less than the first wavelength;

a modulator that receives and modulates the wavelength converted pulsed light ~~and modulates it at a data rate;~~ and

a scanner that scans the modulated wavelength converted pulsed light over the surface.

69. (Amended) Apparatus according to claim 61 and wherein the pulsed repetition rate is less than ~~the a data rate~~ at which said modulator modulates said pulsed light.